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BLACK BOX®
NETWORK SERVICES

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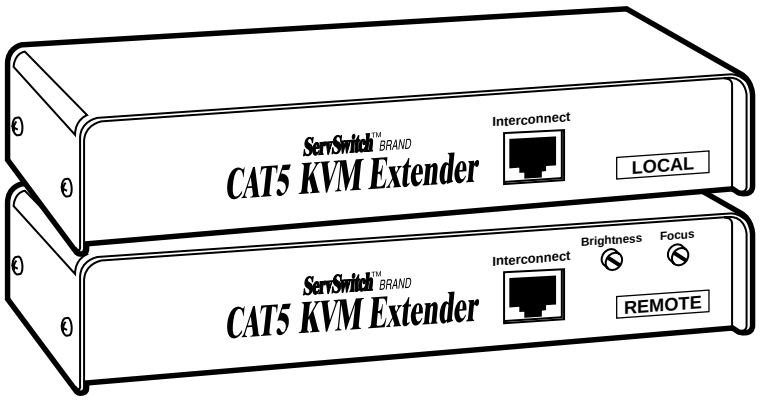
SERVSWITCH CAT5 KVM EXTENDERS



These extenders go the distance for KVM signals and delivering sharp video. One even provides inexpensive switching!

Key Features

- ***Place your keyboard, monitor, and mouse—or remote station—nearly 1000 feet (304.8 m) from a CPU, ServSwitch, or local station.***
- ***Fully adjustable video equalization, even at long distances and high resolutions.***
- ***Compatible with most keyboards, monitors, and mice.***
- ***ACU1049A features switching capabilities! A remote station can switch between the local and remote CPUs with a keyboard code.***

It's time you put your servers, CPUs, and ServSwitch™ family KVM switches in safe locations where they can be administered easily and kept secure.

The ServSwitch CAT5 KVM Extenders send keyboard, video, and mouse signals long distances across a single solid-core 4-pair Category 5 UTP or STP cable. (If possible, do *not* use "higher" cables—CAT5e, Category 6, and so on—because the tight wire twists in these cables actually *degrade* video signals.

Plug your monitor, keyboard, and mouse (or a cable running to one of the CPU ports of a KVM switch) into an extender's Remote Unit. Then run CAT5 cable from the Remote Unit to the extender's Local Unit. Use extension cable(s) to connect your CPU or the user port of a KVM switch to the Local Unit. Plug everything in, turn everything on, and go!

The extenders fully buffer all the signals they carry, so you won't see delays, flickering, and herky-jerky mouse movement.

You can use a Remote Unit's Brightness and Focus dials to adjust the screen image and bring it as close to clarity as it can get.

The extenders require no software and are compatible with all operating systems and a wide variety of hardware, including the Microsoft® IntelliMouse®.

The Local Units perform complete PS/2® keyboard and mouse emulation, so you can unplug or replug your keyboard and monitor without worrying about disrupting the booting or operation of your CPUs.

The Single-Access model (ACU1001A) sends your keyboard, monitor, and mouse signals nearly 1000 feet (304.8 m) from a local CPU to a remote user station. With the Dual-Access model (ACU1009A), you can also attach a local user station that contends with the remote station for CPU control.

The ServSwitch CAT5 KVM Switching Extender (ACU1049A) is similar to the regular extenders in that you can place your remote workstation nearly 1000 feet (304.8 m) away. It, too, features keyboard and mouse emulation and video equalization.

The ACU1049A is also a switch. It enables the remote station to switch between the local CPU and remote CPU with a simple keyboard code. Its Double Private Mode locks out the second workstation, preventing conflicts.

Specifications

Cable Required:
Between local and remote units: Category 5 solid UTP or STP wired to the TIA/EIA-568A or -568B (preferred) standard, terminated with RJ-45 M connectors

Compatibility:
Video: VGA, SVGA, XGA, XGA-2, or RGB (sync on green);
Keyboard: IBM® PC/AT® or PS/2 compatible (PC/AT types require a connector adapter);
Mouse: IBM PS/2 compatible two-button, Microsoft IntelliMouse, or Logitech™ PS/2 three-button

Distance (Maximum):
16.4 ft. (5 m) from the local unit to the attached CPU or KVM-switch user port;
16.4 ft. (5 m) from the remote unit to the attached monitor, keyboard, and mouse or KVM-switch CPU port;
984.3 ft. (300 m) between the local and remote units;
ACU1009A only:
16.4 ft. (5 m) from the local unit to the attached keyboard and mouse or KVM-switch CPU port; 98.4 ft. (30 m) to the attached monitor;
ACU1049A only:
16.4 ft. (5 m) from the remote unit to the attached CPU or KVM-switch user port

Resolution:
Up to 1600 x 1280 noninterlaced at up to 196.9 ft. (60 m);
Up to 1280 x 1024 noninterlaced at up to 393.7 ft. (120 m);
Up to 1024 x 768 noninterlaced at up to 984.3 ft. (300 m)

Synchronization: H/V or composite, TTL signal levels; sync polarity is preserved

User Controls:
Remote Unit:
(1) Internal 4-position DIP switch for various options;
(2) Front-mounted dials for brightness and focus;
(3) Internal video-distance (cable-length) jumpers

Video Bandwidth (to -3 dB):
Local unit: 150 MHz;
Remote unit: 350 MHz;
Across 328 ft. (100 m) of UTP: 95 MHz (with equalization)

Video Compensation: 3-stage continuously variable

Video Coupling: DC

Video I/O Signal Levels: 0.7 volts peak-to-peak

Interface: Video: VGA;
Keyboard and mouse: IBM PS/2 compatible;
Between units and (on ACU1049A) to remote CPU: Proprietary composite

Connectors:
On local unit:
Front-mounted:
(1) RJ-45 for local/remote interconnection;
Rear-mounted:
(1) HD15 M for video input from local computer;
(2) 6-pin mini-DIN F for keyboard and mouse output to local computer;
ACU1009A only:
(1) HD15 F for video output to local monitor;
(2) 6-pin mini-DIN F for input from local keyboard and mouse;
On remote unit:
Front-mounted:
(1) RJ-45 for local/remote interconnection;
Rear-mounted:
(1) 2.5-mm center-positive barrel jack for power;
(2) 6-pin mini-DIN F for input from keyboard and mouse;
ACU1049A only:
(1) DB25 F for composite I/O to/from the keyboard, mouse, and video ports of the remote CPU

Power:
Local unit: 5 VDC at up to 120 mA from CPU's keyboard port;
Remote unit: From desktop power supply, PSU1002E (certified to the relevant international safety standards):
Input: 100–240 VAC at 47–63 Hz from utility-power outlet, through detachable power cord and IEC 320 M inlet, to external transformer;
Output (isolated from mains ground): 9 VDC regulated, at up to 1 amp, from transformer to extender

Size: ACU1001A, ACU1009A: 1.4"H x 7.8"W x 3.9"D (3.6 x 19.8 x 9.9 cm);
ACU1049A: 1.4"H x 8.4"W x 3.9"D (3.6 x 21.3 x 9.9 cm)

Why Buy From Black Box? Exceptional Value. Exceptional Tech Support. Period.

Recognize any of these situations?

- You wait more than 30 minutes to get through to a vendor's tech support.
- The so-called "tech" can't help you or gives you the wrong answer.
- You don't have a purchase order number and the tech refuses to help you.
- It's 9 p. m. and you need help, but your vendor's tech support line is closed.

According to a survey by Data Communications magazine, 90% of network managers surveyed say that getting the technical support they need is extremely important when choosing a vendor. But even though network managers pay anywhere from 10 to 20% of their overall purchase price for a basic service and support contract, the technical support and service they receive falls far short of their expectations—and certainly isn't worth what they paid.

At Black Box, we guarantee the best value and the best support. You can even consult our Technical Support Experts before you buy if you need help selecting just the right component for your application.

Don't waste time and money—call Black Box today.

Technically Speaking

In data communications applications, using products that exceed required capacities is usually not a problem. For example, if a 28.8-kbps modem is required, a 33.6-kbps or 56-kbps modem will work just fine.

But sometimes more isn't better. For instance, KVM extenders are designed to expect CAT5 and only CAT5 cable. You'd probably guess that Category 3 cable wouldn't be effective with these products, and you'd be right. But you may also assume that if Category 5 cable works just fine, Category 5e, Category 6, and other higher-capacity cables would work even better. This isn't the case.

KVM extenders from many manufacturers, including our ServSwitch CAT5 KVM Extenders, are designed specifically for the Category 5 specs defined by the TIA/EIA standard. Higher-level cables, such as CAT5e, have different characteristics and specs. Although differences like twist ratios might seem small, they can have a negative impact on these extenders, which are expecting a true Category 5 transmission.

However, if you already have CAT5e or CAT6 cable installed, you can work around this problem by installing a delay line module or skew compensator. Call Tech Support for details.

Ordering Information

ITEM	CODE
ServSwitch Brand CAT5 KVM Extenders	
Single-Access Kit	ACU1001A
Dual-Access Kit	ACU1009A
ServSwitch CAT5 KVM	
Switching Extender	ACU1049A
To rackmount your standalone extenders, order…	
19" Rackmount Kit	
for ACU1008A Local Unit	RMK19X
for All Other Units	RMK19U-R2
To connect an AT style computer, order…	
AT®→PS/2 Mouse GHOST	AC244A
6-Pin Mini-DIN Female to 5-Pin DIN Male	
Keyboard Adapter	FA212
To connect remote units, order…	
Category 5 Unshielded Bulk Cables, 100-MHz, Solid, 4-Pair, Beige, 1000-ft. (304.8-m)	
PVC Spool	EYN840A-1000
PVC Box	EYN840A-B
Plenum Spool	EYN860A-1000
Plenum Box	EYN860A-B
To terminate your bulk cable, order…	
High-Performance Category 5 Modular Plugs, Solid-Conductor, Unshielded, 25-Pack	FM732
To connect the extenders to a patch panel, order…	
CAT5 Solid-Conductor Cables, 100-MHz, RJ-45, 4-Pair, PVC (NEC® CMR), Straight-Pinned, Beige	
10-ft. (3-m)	EYN737MS-0010
15-ft. (4.6-m)	EYN737MS-0015
20-ft. (6.1-m)	EYN737MS-0020
If you want to use CAT5e or CAT6 cable, order…	
ServSwitch Brand CAT5 Extender	
Delay Line Module	ACUDLY
For better twisted-pair performance, choose…	
ServSwitch Wizard Skew Compensator	ACU5100A